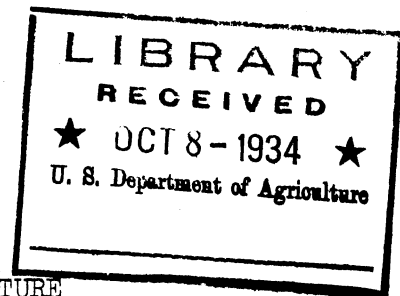


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UNITED STATES DEPARTMENT OF AGRICULTURE

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THE EXTENSION ANIMAL HUSBANDMAN

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and Extension Service, Cooperating,

C. D. Lowe, Senior Extension Animal Husbandman,
K. F. Warner, Animal Husbandman in Meat Extension.

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ANIMAL HUSBANDRY AND THE DROUGHT

By E. W. Sheets, Chief, Animal Husbandry Division,
Bureau of Animal Industry, U. S. Department of
Agriculture.

Dr. Lowe has asked me for some observations regarding the probable adjustments that will be made in the livestock industry and in animal husbandry research and extension practice as a result of the drought.

It affords me an opportunity to mention, first of all, the splendid cooperation which I received from deans, directors, specialists, county agents, and other workers in the emergency cattle-purchase program during the past summer. It was a demonstration of tireless energy, enthusiasm, and teamwork such as I had never before had the privilege of witnessing. Altogether it was an experience such as seldom comes to a man. To each and all my sincere appreciation for your counsel, support, and cooperation.

It is, of course, apparent that all livestock-production programs will be tremendously affected by this worst drought on record. A drought is on the whole, a scourge to be anticipated and prepared against. Though it brings some few beneficial results in its wake, it brings disaster to many farms and farmers. Far from the least of its damages is the destruction by soil erosion that comes when heavy rains follow severe drought such as we have had. Animal husbandmen, agronomists, soils specialists, and erosion engineers have a large and difficult task ahead of them in the alleviation of the damage this drought has done and in preparation against the next.

Animal husbandmen have a peculiarly important part to play. The nation's livestock are our best insurance against wholesale destruction of food reserves by drought. But for our grasslands the drought would have made of much of the United States a great desert this summer; the livestock which graze and fatten upon these grasslands will save us from what would have been a winter of semi-starvation.

It is up to us to build upon our drought insurance and solidify our gains, for there have been some. Our stock have never been culled to such an extent as now. We have never been so conscious of the value of haystacks, strawstacks, filled silos, and granaries as insurance against lean years. We have never appreciated so acutely the value of leaving "right-side-up" our native grasses in arid and semi-arid regions, of the destruction we promote when we pierce them with a plow.

Based on progress to date in the adjustment of livestock numbers, it is estimated that by January 1, 1935, this country will have somewhere in the neighborhood of:

40 to 42 million	hogs
55 to 60	" cattle
45 to 47	" sheep and lambs
16 to 17	" horses and mules
400	" chickens

These numbers represent reductions from a year ago of about 15 million hogs, between 7 and 12 million cattle, and between 4 and 6 million sheep and lambs.

To feed these animals we have about 60 million tons of feed grains as compared with 92 million tons last year and a ten-year average of 103 million tons; and 54 million tons of hay as compared with 75 million tons last year and a ten-year average of 84 million tons.

Using the above feed and livestock data as a base, feed supplies per animal unit this year will be considerably below normal, or about 0.55 ton of feed grains per animal unit as compared with 0.66 ton in 1933 and an average of 0.78 ton during the 1929-33 period. The present supply of hay per hay-consuming animal unit is 0.67 ton as compared to 0.95 ton in 1933 and 1.03 tons during the 1929-33 period.

A problem of immediate concern is that of conserving meritorious purebreds and other desirable seed and foundation stock in order that the rehabilitation of the industry may result in an improved average quality of flocks and herds.

Census statistics show that more than 57 percent of our registered beef cattle and 43 percent of our registered sheep are located in 13 States, all or practically all of which are designated as emergency drought areas. These same States also contain 26 percent of the registered horses and 34 percent of the registered swine enumerated in the 1930 census. The remaining States affected by the drought to the extent of having officially designated emergency counties, on April 1, 1930 contained an additional 35 percent of the registered beef cattle, 30 percent of the registered sheep, 45 percent of the registered swine, and 40 percent of the registered horses.

Reports received from extension animal husbandmen in the drought areas indicate that from 5 to 90 percent of their purebred herds and flocks were in immediate danger of serious depletion and that the situation would be considerably worse at the beginning of the coming winter season.

The purchase of \$600,000 worth of purebred beef and dual-purpose

cattle by the Bureau of Indian Affairs for the rehabilitation of Indian-reservation herds will to some extent improve the critical situation confronting many owners of purebred herds. The extension of emergency feed credit by the Farm Credit Administration will also tend to aid some purebred establishments.

The whole situation is such as to tax the best thought and resources of the industry and those whose duty it is to cooperate with it, in formulating and putting into effect such feeding and management programs as will bring the livestock industry through the present emergency with its house in the best possible order to go forward when conditions again return to normal. A large reduction in the livestock population is inevitable and in itself may be considered constructive, especially if in the process the industry is purged of its low-grade and diseased animals. After the present feed-shortage emergency, many redistribution and other readjustment problems will arise.

As in all critical situations of the past, it is certain that animal husbandmen and other livestock-production leaders will acquit themselves with distinction and credit in aiding the industry to regain its feet and assume its proper position in the agricultural field.

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TEXAS BEEF CANNING PROJECT

The results of an outstanding piece of work, the Federal Beef Canning Program in which the Extension Service cooperated with the Texas Relief Commission, was due to the hard work of county and home agents. In that program 21,320 cattle were killed in 18 killing plants distributed over the State. The cattle killed produced 3,170,478 No. 2 cans of meat and related food products. The canning was done in 19 plants located close to killing plants. The total weight of the carcasses was 6,686,145 pounds. Twenty-one cattle buyers and a supervisory force of 95, with an operating force of 433 conducted the program.

<u>Kind and Quantity of Product</u>	
<u>Kind</u>	<u>Number of Cans</u>
Roast	1,479,038
Stew	627,185
Hamburger (fine)	340,895
Hamburger (coarse)	523,715
Hash	142,126
Soup stock	57,078
Liver product	441

Total 3,170,478

---From Texas Annual Report, 1933.

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BETTER SIRES--BETTER STOCK CAMPAIGN

By D. S. Burch, Bureau of Animal Industry,
United States Department of Agriculture.

The Federal-State activity in behalf of livestock improvement under the slogan "Better Sires--Better Stock" was conducted during the fiscal year ended June 30, 1934, in the same manner as in previous years. Owing to various emergency measures, such as agricultural adjustment, drought relief, and augmented disease-eradication work, no effort was made to stimulate purebred-sire activities. However, 84 new members made application for enrollment and were duly entered on the Department's records in the customary manner. The registrants were all from the State of New York and represent seven counties: Chautauqua, Genesee, Madison, Onondaga, Oswego, Otsego, and Wyoming.

The total enrollment at the end of the year was 18,131, which represents the number of livestock owners who have definitely agreed to use purebred sires in the breeding of all classes of livestock on their farms or ranches.

In discussing the relation of veterinary science to animal breeding in an address before the Twelfth International Veterinary Congress in New York, August 14, Dr. John R. Mohler, Chief of the Bureau of Animal Industry, commented on some of the results of better-sires work as follows:

"Any consideration of the relationship of veterinary science to animal breeding inevitably leads to the question of quality of animals as well as their numbers, for the very significant reason that owners of improved livestock not only are interested in animal-disease prevention and control, but have animals that justify veterinary services to keep them well and productive.

"For more than a decade, the U. S. Bureau of Animal Industry and the various States have conducted a systematic campaign to encourage livestock improvement. This interest involves, in particular, the production of purebred stock and the establishing of studs and herds of high breeding and utility value. Records of this activity have shown that the ownership of a few purebred animals quickly leads to the acquisition of more improved stock and to general interest in higher type of domestic animals.

"In conducting this campaign, we distribute extensive printed information on animal breeding and feeding. Gratifying reports from persons who have adopted our recommendations indicate that their improved stock have a utility value fully one-third greater than that of unimproved farm animals. We have also observed that when stockmen request literature on production subjects, they seek also the latest facts concerning practically all animal maladies. This is a line of work that, as a veterinarian, I have been proud to sponsor and aid."

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HOOSIER TON-LITTER CLUB

The Hoosier Ton-Litter Club had an enrollment of 210 members this year. Out of this group 42 litters averaging 2,216 pounds per litter were produced. The average number of pigs per litter in this group was 10.3. Fifteen litters averaged 1,863 pounds with 9.7 pigs per litter and 11 litters averaged 1,672 pounds with 9.3 pigs per litter. The goal of all ton-litter club members is a gold medal obtained when a litter is produced that weighs a ton or more. The heaviest litter produced during the past year was one containing 12 pigs that weighed 2,612 pounds. The sires of all winning litters in the Hoosier Ton-Litter Club were purebreds.

---From Indiana Annual Report, 1933.

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AMERICAN SOCIETY OF ANIMAL PRODUCTION

The regular annual meeting of the American Society of Animal Production will be held at Chicago, November 30 and December 1, immediately preceding the dates of the International Live Stock Exposition. Chairman Creech and secretary Brown of the Extension Section have been in communication with the extension group relative to the program to be presented and promise to have something well worth while. It will be to the advantage of all extension animal husbandmen to attend this important gathering.

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KANSAS BEEF-CATTLE PRODUCTION WORK

(The splendid record made by Mr. Moxley during the last five years in modernizing beef-production methods in Kansas has attracted wide attention. It is believed that workers in other States will be interested in the following excerpts taken from Mr. Moxley's 1933 annual report. They include the plan of work and some result information indicating the success with which the project has been conducted.

--C. D. Lowe)

METHODS OF PROCEDURE

Project - Animal Husbandry

Subproject - Beef-Cattle Production

I. Facts Determining the Selection of this Subproject:

1. Though Kansas ranks as one of the leading feed-producing States in the United States, the average value of the cattle is no greater than the average value of the cattle of the United States. Improvement must come by better breeding, feeding, and management methods.
 - a. Many cow herds are small, inferior in both type and quality. Remedy - Good, big purebred bulls; culling of cows.
 - b. Many cow herds have a small percentage of calves and an uneven calf crop. Remedy - Better winter feed and care; cull cows and breed for short calving period as early as equipment will permit.
 - c. Many cow herds lack in vitality necessary to raise a good calf crop. Remedy - A balanced feed of roughage with sufficient protein and mineral.
 - d. Many pastures are short, due to overgrazing and to drought. Remedy - Supply supplementary pastures or limit the number of cattle.
 - e. Many calves are not developed due to lack of milk during the dry, hot part of the summer. Remedy - Creep feeding.
 - f. Many calves which are taken off cows, and immediately fed on same farm, lose weight before getting on feed. Remedy - Creep feeding.
 - g. Many calves which are fattened after weaning, do not make good, economical gains. Remedy - A balanced fattening feed.
 - h. Many calves which are wintered do not thrive. Remedy - A balanced wintering feed.
 - i. Many heifers kept for replacement are not properly developed. Remedy - Adequate winter and summer rations.
2. a. Many baby beeves, produced by boy and girl 4-H club members, are poor type and lacking in quality and in finish. Remedy - Good feeding animals, and a balanced fattening feed.

II. Long-Time Goals:

1. A good purebred bull at the head of every beef herd.
2. The culling of cows practiced by all cattlemen.
3. Short, early calving period practiced by all cattlemen.
4. Supplementary pastures to provide adequate summer grazing, when the regular pastures are overgrazed.
5. Creep feeding on farms where practical.
6. Adequate winter feed for cow herds and replacement stock by either dry roughage, silage, or both, supplemented by protein feed and mineral.
7. A definite system of feeding, breeding, and management, which will provide the most beef at the least cost practiced by all cattlemen.
8. The selection, feeding, and production of beef cattle, by boy and girl 4-H Club members, that satisfy market demands for choice beef.

III. Suggested Procedure and Program Organization:

1. Comparisons in following demonstrations are by weight, market value, or both:
 - a. Demonstrate value of good purebred bull by the calves produced.
 - b. Demonstrate value of good type by producing good-type animals against poor-type animals.
 - c. Demonstrate value of culling cows by comparison of their calves at weaning and later in the feedlot with those of better cows.
 - d. Demonstrate value of early calves by comparison against late calves.
 - e. Demonstrate value of proper wintering of breeding herd by percentage of calves and their value.
 - f. Demonstrate the value of supplementary pastures by use of Sudan grass, sweet clover, and other crops.
 - g. Demonstrate the value of creep-feeding calves by comparison with calves not creep fed.
 - h. Demonstrate the value of balanced fattening ration for calves.
 - i. Demonstrate the value of balanced wintering ration of young cattle.
2.
 - a. Demonstrate to the boy and girl 4-H Club members the value of good-type beef cattle by a baby-beef or breeding-heifer project.
 - b. Demonstrate the value of proper management and feeding by records of feeds and gains made on these projects.

Program Organization for Adult Work:

1. First year:
 - a. Select five or more leaders to attend district beef cattle school.
 - b. Conduct beef cattle school.
 - (1) Subject of discussion:
 - (a) Beef cattle improvement.
 - (b) Cow herd management.
 - (c) Feeds and feeding.

- c. One or more beef-herd-management demonstrations per county.
 - d. Summary meetings on result demonstration.
2. Second year:
 - a. Repeat beef-cattle school for county.
 - b. Three or more beef-herd-management demonstrations per county.
 - c. Summary meetings on result demonstration.
 3. Third year:
 - a. Repeat beef-cattle school for county.
 - b. Five or more beef-herd management demonstrations per county.
 - c. Summary meetings on result demonstrations.
 4. Fourth year:
 - a. Repeat beef-cattle school for county.
 - b. Conduct community schools.
 - c. Five or more beef-herd-management demonstrations.
 - d. Summary meetings and tours of beef-herd-management demonstrations.
 5. Fifth year:
 - a. Repeat beef-cattle school for county.
 - b. Conduct community schools.
 - c. Five or more beef-herd-management demonstrations.
 - d. Summary meetings and tours of beef-herd-management demonstrations.
 - e. County cooperators organize and conduct beef-production campaign in their county for adoption of improved practices.

Program Organization for Junior Work:

1. Organize community clubs.
2. Select leaders for beef project.
3. Conduct schools for selection, feeding, and management.
4. Conduct tours of beef projects.
5. Conduct local livestock shows.
6. Conduct livestock judging contests.

IV. Division of Responsibility:

1. The specialist will:
 - a. Assist in outlining the livestock program of the county.
 - b. Assist in obtaining cooperators and in checking up on demonstrations.
 - c. Assist with tours, demonstration meetings and schools.
2. The county agent will:
 - a. Assist in outlining program for county.
 - b. Assist in securing cooperators, publicity, arrange tours, demonstrations, and check up on demonstrations.
3. The community project leaders will:
 - a. Assist in advancing project according to county program of work.

V. Literature and Illustrative Material:

1. K.S.C. Experiment Station results.
2. Hays Experiment Station results.
3. U. S. D. A. bulletins.
4. Extension circulars.

VI. Measuring Results:

1. The units of measurement will be:
 - a. Number of purebred bulls replacing scrubs.
 - b. Number of men culling cow herds.
 - c. Number of men feeding balanced rations.
 - d. Number of men supplying adequate grazing.
 - e. Number of men producing early, uniform calves.
 - f. Number of men following better beef program.
 - g. Satisfied cooperators.
 - h. Number of boy and girl livestock club members.
 - i. Number of livestock shows.
 - j. Number of livestock judging contests.
2. The methods of securing results:
 - a. Through cooperation of local demonstrators, county agent, and organizations.
 - b. By surveys, sales, and county and State statistics.

Approved by the Procedure Committee on Animal Husbandry Project, Annual Extension Conference, October 17 - 21, 1932.

VII. Specific Example of Accomplishment

Creep-Feeding Demonstration - Fred Morgan, Alta Vista

<u>Item</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
Number of calves	19	18	25	38	30
Average birth date	2-5	2-1	1-25	1-20	3-10
Selling date	1-4	12-8	11-10	(10-10 (11-17)	11-22
Selling weight (lbs.)	744	730	670	725	725
Bushels of corn per calf	31	30	26	38	40
Alfalfa per calf (lbs.)	450	400	350	500	400
Selling price per cwt.	\$16.50	\$13.50	\$10.00	\$8.00	\$6.75
Income above feed cost, amount received for keeping cow a year	\$69.80	\$68.78	\$52.40	\$43.35	\$33.92
Cost of keeping cow a year	\$43.00	\$39.50	\$31.00	\$24.28	\$19.90
Labor income per cow	\$46.80	\$29.28	\$21.00	\$19.07	\$14.02

VIII. Five-Year Summary Tabulation of Accomplishments:

Subproject 10A - Beef-Cattle Production:

Results of Adult Beef-Cattle Work as reported by County Agents,
and Summary Tabulation of Accomplishments

	1928	1929	1930	1931	1932	1933
Counties carrying Beef-Herd						
Management subproject.....	10	22	25	33	38	46
Result demonstrations	13	117	209	333	390	235
Beef Cattle Involved	1,049	5,728	9,428	18,000	29,450	11,180
Number cattlemen creep-feeding calves.....	65	308	427	659	866	1,036
Percent of total beef-cattle producers in Kansas creep-feeding calves.....	--	5	8	9.5	12	16
Percent in 25 major production counties	--	8	12	16	20	23
Percent producing early calves in major beef producing counties	--	32	33	36	38	39
Number beef cattlemen using purebred bulls	--	4,918	5,667	6,558	8,191	8,356
Percent of beef cattlemen using purebred bulls in major beef-production counties.....	--	70	77	79	80	81

Summary Tabulation Showing Accomplishments in the 4-H Project:

	1928	1929	1930	1931	1932	1933
Number baby-beef club members	918	954	1,255	1,443	1,679	2,004
Standing of Kansas 4-H Livestock:						
Judging Team:						
"American Royal" contest	1st	3rd	2nd	2nd	1st	1st
"International" contest	2nd	5th	1st	14th	6th	2nd

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McLEOD TRANSFERRED

J. H. McLeod, extension livestock specialist in charge of swine work for the last 13 years has been transferred to new duties. On July 1 he was put in charge of farm-management work succeeding J. C. McAmis who now is employed by the Tennessee Valley Authority.

-----Tennessee Extension Review

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LOW-GRADE ROUGHAGES FOR MAINTENANCE

By A. T. Semple, Associate Animal Husbandman,
Bureau of Animal Industry, U. S. Department of Agriculture.

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The coming winter will probably be the most trying one in the history of the livestock industry of the United States. The deficiency of pasture, range, and hay crops on account of the widespread drought combined with the small reserves of hay and similar feeds have caused an acute shortage of roughage for even the minimum number of livestock which should be kept as breeding, milk, and work stock. Therefore it will be necessary to use coarse roughages such as straw and stover to a much larger extent than commonly. It has been estimated as the result of an extensive survey that under average conditions, only one-third of the corn stover and oat straw and one-tenth of the wheat straw are eaten by livestock.

In using such roughages to replace legume hays and grass hays of high quality the problem of supplying sufficient protein, minerals, and vitamins is important. It is intensified when animals have been carried throughout the grazing season on an inadequate supply of dry grass, deficient in these nutrients and particularly in vitamin A, which is abundant in green grass. Where fall pastures are green and where winter pastures are supplied the shortage of green, leafy hay will not be a serious matter, if the lower grade roughages are available.

In maintaining livestock on straw, stover, and low-grade grass hays approximately three pounds of good, leafy legume hay should be used as a supplement for each 1,000 pound animal or its equivalent. Where such hay is not available the protein deficiency should be corrected by feeding about 1 pound of a protein-rich supplement for each 16 pounds of the low-grade roughage consumed. Accordingly, where there is not a serious vitamin or mineral deficiency it may be figured that the difference in value between a ton of legume hay which is all edible, and a ton of coarse roughage of similar quality and edibility is equal to the cost of 125 pounds of a protein concentrate such as cottonseed meal.

Of course the practice of carrying livestock through the winter on submaintenance rations will be practiced much more commonly than normally. Usually this practice is advisable only in the case of beef cattle, particularly stockers over a year old. Breeding cows which go into the winter in good condition may safely lose about 10 percent of their weight during the winter. Where they go into the winter thin, as will be the rule this year, extraordinary care will be necessary to bring them through in fit condition to carry their calves and breed again in the spring. For such breeding cattle and also sheep, tankage, fish meal, and similar animal

by-products may be used as substitutes for the common sources of protein. Experiments have shown that they are palatable to livestock. The high quality of their proteins is well-known.

Using such supplements increases the efficiency with which livestock utilize the parts of such lower grade roughages which are consumed. Mixing molasses, chopped roots, sugar-beet pulp, and other palatable feeds with coarse roughages, and chopping them in some cases, increases the proportion of such roughages which are consumed. Such increased consumption is particularly valuable in the case of animals on maintenance and submaintenance rations. The heat produced as a result of the energy expended in digesting such feeds is useful in keeping the animals warm. In the case of animals on super-maintenance rations, increasing the consumption of feeds which require so much energy to digest them is not desirable.

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HOOSIER GOLD MEDAL COLT CLUB

This is the seventh year in which the Gold Medal Colt Club has been conducted. There were 315 cooperators in 36 counties entered in the project this year. More than 4,600 people attended the meetings and shows in which the gold medal colts were exhibited. There were 316 Belgian colts, 117 Percheron colts, 2 Clydesdale and 6 French Draft colts entered in the project. The heaviest gain made on any individual colt was 1,055 pounds in one year's time by a purebred Belgian belonging to John W. Glendenning of Jay County.

The showing of the colts in local shows is the climax of the project each year. Interest in exhibiting and visiting has continued to grow from year to year. In fact, hundreds of farmers attend many of these shows each year seeing the colts in their finished form, studying their breeding, and watching the judging. Such shows are highly educational when capable judges are engaged to place the various classes. Some of these shows are held in connection with county fairs, others are held on individual farms as a very special feature. The largest show each year is held in connection with the Indiana State Fair.

Mr. J. D. Conner, Jr., Wabash, Indiana, offered a special trophy to the stallion of any breed that made the highest score in the production of colts in the Hoosier Gold Medal Colt Club. This trophy was won by Mr. Roscoe L. Bowers of Henry County.

-----From Indiana Annual Report, 1933-----

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SAVANNAH SHOW AND SALE OF GEORGIA AND SOUTH CAROLINA CATTLE

By J. R. Hawkins, Extension Animal Husbandman,
Columbia, S. C.

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The Savannah cattle show and sale is a project developed by the cooperation of agencies in Georgia and South Carolina which are interested in promoting the cattle industry in the Savannah trade territory and finding a market at home for beef of improved quality and finish.

Since three successful shows and sales have been held, it is felt that sufficient momentum has been gained to insure better shows and sales in the future. A successful cattle show in a section where beef cattle are raised and fed on farms is not a novelty, but a show of halter-broken cattle in a coast town of the Southeast is an event of note.

The 307 cattle which passed through the sale April 7, 1934, brought a total of \$11,773.26, or an average of \$5.47 per hundredweight at a time when fat steers were not salable in the country locally above \$4.65 per hundredweight. These cattle were owned by 22 farmers in lots of from 4 to 40. While some "plain" cattle were in evidence, the quality and finish of the entire lot and the number of fat cattle shown have improved greatly with each successive show.

Every effort possible was made to inform the housewives of Savannah that locally grown beef of good quality and finish was available at the shops of local butchers, with the result that not only the cattle at the show, but many other lots of cattle in the surrounding territory were sold to advantage in a town where native meats had long been known as designating only beef from range grass-fed cattle.

A few feeders are becoming interested in finishing their cattle to supply the markets regularly, while others have caught the competitive spirit of showing, and are attempting to put a better finish on their cattle in order to win at next year's show.

Not only do the States of the Southeast have ample lands on which to graze and produce feed for cattle, since the cotton crop of the section has been so greatly reduced, but a satisfactory market for light, finished beef awaits the cattleman who produces this kind of beef regularly for the butcher, who in turn must have the same kind of carcass every week in order to hold his trade and please his customers.

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RAM SHOWS AND SALES IN MARYLAND

By Jos. M. Vial, Animal Husbandry Specialist,
College Park, Md.

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Through the cooperation of the Maryland Stockmen's Association and the Extension Service of the University of Maryland, a number of ram shows and sales have been held annually in various parts of the State. This project has given an excellent medium through which to conduct constructive demonstrations in all branches of sheep husbandry. A large number of our flock owners breed for an early lamb market. Inasmuch as our markets to date have not been too discriminating with respect to quality, the Hampshire ram has been used chiefly. He is a big factor in producing a big, lusty lamb that will make the desired weight at an early age. As a result of this early breeding, the majority of our ram sales and shows are held during the month of July, and the rams consigned are offered by a large number of relatively small purebred flock owners.

That our ram shows and sales have become more or less of an institution here in this State is borne out by the fact that at Centerville this year we held our eighth consecutive ram show and sale. Aside from the show and sale features, we make the day a sheepmen's day, where the sheepmen can gather and discuss their problems with one another, and with members of the university and extension staffs. A brief summary of the ram shows and sales held to date in Maryland follows:

Summary of Ram Sales for Nine Years

<u>Year</u>	<u>Rams sold</u>	<u>Average price</u>
1926	26	\$41.57
1927	39	35.37
1928	40	35.67
1929	45	58.46
1930	57	31.47
1931	122	16.21
1932	119	14.91
1933	94	19.42
1934	49	15.02

Rams sold..... 591
Total returns..... \$14,625.25
Average price per ram... \$24.75

The report for 1934 is only a partial report, as we still have one sale pending in the extreme northwest part of the State.

TEXAS 4-H LIVESTOCK CLUB WORK

BEEF -

There was a noticeable decrease in baby-beef feeding, and demonstrations were less profitable, due to the fact that feed prices were higher. The number of calves fitted per club member was also slightly decreased.

<u>Year</u>	<u>No. counties reporting</u>	<u>No. club members</u>	<u>No. head</u>	<u>Profit per animal</u>
1932	85	643	1,107	\$ 19.73
1933	55	623	1,017	12.76

LAMB -

A limited amount of 4-H Club lamb feeding is done in comparison to the work in calf feeding, but there was a noticeable increase during the year. Schleicher and Tom Green counties have been outstanding. The work reported is from 17 counties and with 64 boys, involving 663 lambs. This record speaks of good lambs and good feeding. We think this work should be expanded.

There was a very marked decrease in creep-fed lambs-- only about 100 cooperators and demonstrators feeding 9,358 lambs, which was approximately one-fourth of all lambs fed.

PIG -

Boys conducting 4-H pig demonstrations in Texas in 1933 were again very numerous. Over 1,600 boys in 90 counties completed 4-H club demonstrations involving 5,161 animals. Over half of the club boys kept sows, and thereby raised their own pigs. Practically all of the demonstrations by club boys were profitable. The average net return per pig fed out was \$2.89. Ever since 1929 an effort has been made to increase the number of pigs per demonstration; the object being to enlarge on the demonstrations that the club boys were conducting so that they would become a more important factor in carrying to the farmers improved methods of hog production. In 1930, the average number of hogs per boy was 2.2; in 1931 it was 2.5; and in 1932 it was 2.7; and in 1933 it was 3.0. While progress along this line is seemingly slow, the gains made are consistent and it is satisfying to know that definite progress is being made along this line.

--From Texas Annual Report, 1933.

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TEXAS CREEP FEEDING

There was a noticeable increase in the number of farmers and ranchmen creep-feeding calves last year. The following figures were compiled from annual reports of county agents:

<u>Year</u>	<u>No. feeders</u>	<u>No. calves</u>
1932	284	20,175
1933	407	22,951

For the stockman producing his own calves and grain feeds there is no more common-sense or economical method of handling suckling calves than to allow them access to grain in a creep while following their mothers. The advantages of this method of fattening calves are as follows: It adds weight and finish and permits marketing at an earlier age; the cows are not suckled down so much; calves grow out more uniform in size; labor costs are lessened; and there is very little shrinkage at weaning.

Success depends on having good foundation stock, early calving, good grazing and a central watering place for location of the calf creep. Although primarily suited to the stock farmer or small rancher, the larger ranchman may use it to advantage by fencing "trap" pastures of from 1 to 3 sections in area, cutting out some of the best cows and calves, purchasing grain feeds from nearby farm areas, and marketing as slaughter calves or fleshy feeders at weaning time.

Calves must secure feed from creeps regularly in order to make good gains. Therefore, a central watering place with nearby shade is necessary to attract cows and calves once or twice per day. Locating the mineral box near the creep is another means of securing regularity of feeding. Shade will hold the cows while the calves eat.

The amount of grain necessary for creep-feeding calves varies considerably with the age and time they are started on feed. Early calves started on creep feeders in March or April make more economical gains, learn to eat more readily, and will consume 10 bushels of corn or its equivalent in other grains by weaning time. Threshed grains are recommended for young calves, while older calves started in mid-summer may be fed to an advantage on ground heads or crushed ear corn with cottonseed-meal supplement.

--From Texas Annual Report, 1933.

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RECENT PUBLICATIONS

Federal

"The Beef Cattle Problem" - U.S.D.A., Cattle No. 1, Cattle and Sheep Section, Agricultural Adjustment Administration.

"Beef Production and Quality as Influenced by Crossing Brahman with Hereford and Shorthorn Cattle," by W. H. Black, A. T. Semple and J. L. Lush - U.S.D.A. Technical Bulletin No. 417.

"Comparison of Rambouillet, Corriedale and Columbia Sheep under Intermountain Range Conditions," by Cooper and Stoehr - U.S.D.A. Circular No. 308.

"Statistics of Beef Cattle, Hogs, Sheep, Horses, Mules, and Asses," by C. L. Harlan, et al. - U.S.D.A. Yearbook Separate No. 1350 (1933).

State

"Factors Affecting Costs of Producing Pork in Southeast Alabama," by James D. Pope and Henry T. Wingate - Alabama Experiment Station Bulletin No. 240.

"Beef Cattle Production in Arkansas," by M. W. Muldrow - Arkansas Extension Service Circular No. 315.

"Stiffs or Sweeny (Phosphorus Deficiency) in Cattle," by R. B. Becker, W. M. Neal and A. L. Shealy, Florida Experiment Station Bulletin No. 264.

"4-H Livestock Manual" - Georgia Extension Service Bulletin No. 442.

"The Sheep Enterprise" by W.G. Kammlade - Illinois Extension Service Circular No. 415.

"The Farm Horse - Its Feeding, Care, and Breeding," by J. L. Edmonds and C. W. Crawford - Illinois Extension Service Circular No. 424.

"How to Handle the Brood Sow and Her Litter," by J. W. Schwab - Indiana Extension Service Bulletin No. 65 (third revised edition).

"Feeding Soybeans and Soybean Oilmeal on Indiana Farms," - Indiana Extension Service Bulletin No. 180 (revised).

"Dock All Lambs and Castrate All Male Lambs Intended for Market," by Claude Harper - Indiana Extension Service Bulletin No. 200.

"Corn Supplements and Substitutes for Fattening Lambs," by Dunn and Evvard, Iowa Experiment Station Bulletin No. 185 (revised).

"Cane and Beet Molasses for Fattening Lambs," by Evvard, Culbertson and Wallace - Iowa Experiment Station Bulletin No. 215 (revised).

"Competitive Position of Lard in the Market of Animal and Vegetable Fats and Oils," by Rainer Schickele and Theodore W. Schultz - Iowa Experiment Station Research Bulletin No. 171.

"Using Horses on the Farm," by A. L. Harvey - Minnesota Extension Service Special Bulletin No. 145.

"Establishing Permanent Pastures in Missouri," by C. A. Helm and H.H. Krusekopf - Missouri Extension Service Circular No. 314.

"Cattle Dehorning and Branding," by I.M.C. Anderson and Ross Miller - Montana Extension Service Circular No. 50.

"A Feeding Comparison of Ground Corn Fodder, Corn Silage, and Ground Hogari Fodder for Fattening Lambs," by P. E. Neale - New Mexico Experiment Station Bulletin No. 222.

"Controlling Stomach and Intestinal Parasites of Sheep," by J. P. Willman and W. T. Grams - New York Extension Service Bulletin No. 283.

"Cottonseed Meal for Pigs," by W. L. Robison - Ohio Experiment Station Bulletin No. 534.

"Save the Foals," by L. P. McCann - Ohio Extension Service Bulletin No. 147.

"Results of Three Years of Lamb Feeding," by A. E. Darlow - Oklahoma Experiment Station Bulletin No. 213.

"Sheep Management," by W. B. Connell and W. L. Henning - Pennsylvania Extension Service Circular No. 147.

"Types and Breeds of Sheep," by W. L. Henning and W. B. Connell - Pennsylvania Extension Service Circular No. 146.

"Adjusting Hog Production to Market Demands," by Marvin Guin - South Carolina Experiment Station Circular No. 52.

"Trench Silos," by M. R. Bently - Texas Extension Service Bulletin B-84.

"A Beef-Cattle Program for West Virginia, Based on the Cow and Calf Project," by Benj. F. Creech, et al. - West Virginia Extension Service Circular No. 306.

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